

Occupational allergic contact dermatitis from the mushroom White Pom Pom[®] (*Hericium erinaceum*)

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Key words: mushroom; allergy contact dermatitis; occupational; mushroom grower; agriculture; *Hericium erinaceum*; plants; lack of cross-sensitivity. © Munksgaard, 1999.

Edible mushrooms can elicit both Type I (contact urticaria, inhalational and intestinal allergy) (1–3) and less commonly Type IV allergy (allergic contact dermatitis) (4–6).

Cultivation of the rather expensive mushroom White Pom Pom[®] (*Hericium erinaceum*) was recently introduced in the Netherlands. Because of its appearance, it is also known as the monkey's head mushroom (Fig. 1).

Case Report

A 53-year-old, self-employed man had cultivated common mushrooms (field champignons) without any health problems since 1973. In January 1998, he switched to the cultivation of the White Pom Pom[®] for economic reasons. As early as 1 month later, he developed a chronic dermatitis on the finger pulps and dorsa of the hands, with painful fissures. When the dermatitis progressively spread to the forearms, face and even the legs, he was prompted to end his job. Consequently, the dermatitis cleared up and he was discharged from treatment.

Atopic history was negative, which was confirmed by negative results for both prick tests and RASTs for inhalational allergens. Also, a prick-by-prick test with White Pom Pom[®] was negative.

Patch tests with the European standard series and the cultivation medium were negative, whereas a patch test

with White Pom Pom[®], as is, was positive, but negative in 20 control patients. Sensitization was confirmed by a highly positive ROAT with an aqueous emulsion of White Pom Pom[®], applied 2× daily for 1 week in the elbow flexure (Fig. 2). His wife was willing to serve as a control: her ROAT was negative.

An ether extract (1 min) of White Pom Pom[®] gave a negative patch test in the patient, suggesting a hydrophilic allergen. In a further experiment, prick tests and patch tests with other edible mushrooms, such as champignon, oyster (*Pleurotus ostreatus*) and shiitake (*Lentinula edodes*), were negative.

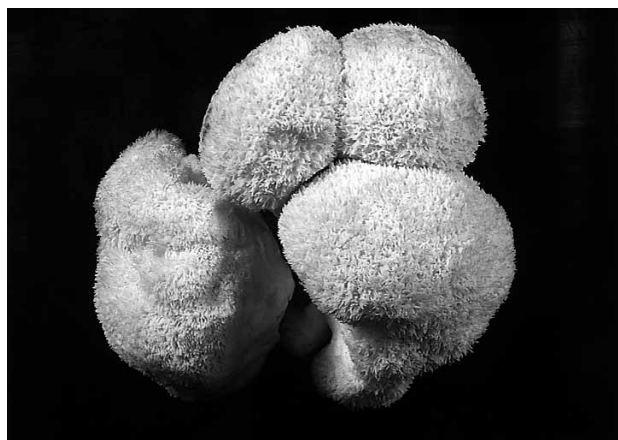


Fig. 1. The edible mushroom White Pom Pom[®] (*Hericium erinaceum*), also called monkey's head mushroom.



Fig. 2. Positive result of the ROAT: application of an aqueous emulsion of White Pom Pom[®] 2× daily for 1 week in the elbow flexure.

tinus edodes) were all negative, demonstrating an apparent lack of cross-sensitivity.

Discussion

Hericium erinaceum or monkey's head mushroom, occasionally occurs naturally in North America, Europe, China and Japan: 1 of the authors (CJWvG) recently observed it in protected woods in The Netherlands. There is a growing tendency to commercialize it in Western Europe, though White Pom Pom® is not yet as popular in restaurants as the shiitake (*Lentinus edodes*). The monkey's head mushroom is round, with hairy, soft skin, spongy and belongs to the wood mushrooms (7). In Asia, it is renowned not only for its taste, but also for its medicinal properties (immunomodulatory and lipid-lowering).

Mushroom allergy is mostly Type I. Mushroom growers as well as consumers can contract rhinitis, bronchospasm and even anaphylactic reactions. Allergic contact dermatitis is much rarer. The chemical identity of the allergen is still obscure. We have found no previous

reports of allergy to *Hericium erinaceum* or other edible mushrooms of the same family.

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Allergic contact dermatitis from military camouflage

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Key words: allergic contact dermatitis; camouflage stick; castor oil; ricinoleic acid; cosmetics; military camouflage; occupational; armed forces. © Munksgaard, 1999.

Case Report

A 20-year-old Chinese army recruit was referred to our centre for rashes on 2 occasions after applying camouflage with a camouflage stick. A mildly pruritic vesicular eruption over the neck, chin, face and hands appeared 1 day after applying the camouflage, associated with eyelid swelling and lasting for 3–4 days. The camouflage stick was a stick of wax in a military green colour, looking otherwise very much like lipstick.

Patch testing was performed to our standard series, the camouflage stick and suspected substances in it: ricinoleic acid, butylated hydroxytoluene, butylated hydroxyanisole, octyl gallate and propyl gallate. The results were as follows.

Test substance	Result
standard series	—
camouflage stick as is	++
ricinoleic 30% pet.	++
butylated hydroxytoluene	—
butylated hydroxyanisole	—
octyl gallate	—
propyl gallate	—

The main component of the camouflage stick turned out to be castor oil (47.1% w/w), the other ingredients

being: iron oxide (black, red, yellow and green pigments), chrome oxide (green pigment), beeswax, distilled oleyl alcohol, ozokerite wax, carnauba wax and 2-bromo-2-nitropropane-1,3-diol.

Comment

Ricinoleic acid is the main constituent of castor oil, which is extracted from the seeds of the castor oil plant *Ricinus communis*. Allergic contact dermatitis from castor oil was first reported by Sai in 1983 (1), and since then in lipsticks, make-up remover, wart paints, and zinc and castor oil cream (1–6), ricinoleic acid being identified as the allergen in some reports (2,7). Allergic contact dermatitis from a camouflage stick has not previously been reported, the allergen being ricinoleic acid.

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